What lies between market and hierarchy? Insights from internalization theory and global value chain theory

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Insights from Internalization Theory and Global Value Chain Theory

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Abstract

In this paper, we suggest that internalization theory might be extended by incorporating complementary insights from GVC theory. More specifically, we argue that internalization theory can explain why lead firms might wish to externalize selected activities, but that it is largely silent on the mechanisms by which those lead firms might exercise control over the resultant externalized relationships with their GVC partners. We advance an explanation linking the choice of control mechanism to two factors: power asymmetries between the lead firms and their GVC partners, and the degree of codifiability of the information to be exchanged in the relationship.

Keywords: internalization theory; global value chain theory; externalization; outsourcing; global factory

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INTRODUCTION

Internalization theory is in essence a theory based upon a comparison of the relative efficiency of different cross-border governance mechanisms (i.e. the market and the firm), with a focus on the conditions under which value-adding activities within global value chains (GVCs) are best internalized within a hierarchical form of organization - i.e. the multinational enterprise (MNE). The theory highlights the relative costs and benefits of coordinating geographically-dispersed activities within the vertically-integrated enterprise rather than externally through the market (Buckley & Casson, 1976; Rugman, 1981; Hennart, 1982; Rugman & Verbeke, 1992), pointing simultaneously to the market failures that increase the costs of transacting through the market and the costs associated with vertical integration (Buckley & Strange, 2011).

Internalization theory is rightly recognized as providing a compelling and parsimonious explanation for the existence of the MNE. But the contemporary global economy is characterized by increasingly more complex divisions of labour, within which GVCs are becoming more and more finely-sliced with value-adding activities being more organizationally-fragmented and/or geographically-dispersed than previously. These GVC activities may be internalized within MNEs, but there is evidence of substantial externalization (outsourcing) of many activities worldwide across a range of industrial sectors including garments, footwear, toys, electronics, pharmaceuticals, and vehicles (UNCTAD, 2011). The clearest examples are seen in firms that perform few or no manufacturing activities: notable examples include Apple (Dedrick, Kraemer & Linden, 2010; Denicolai, Strange & Zucchella, 2015) and Nike (Donaghu & Barff, 1990). They have outsourced much or all of their manufacturing or never engaged in manufacturing in the first place. Nevertheless, they frequently remain involved in pre-production (conceptualization, R&D, design, engineering, and specification development) and post-production (marketing, branding and distribution) activities (Bernard & Fort, 2015).

These developments have led various authors to conceptualize the *global factory* (for example, Buckley & Ghauri, 2004; Buckley, 2009b; Buckley, 2011; Buckley & Strange, 2015), the *global network organization* (Pedersen, Venzin, Devinney & Tihanyi, 2014), *factoryless*

goods producing firms (Bayard, Byrne & Smith, 2015; Bernard & Fort, 2015; Morikawa, 2016), *contract manufacturing* (Sturgeon & Lester, 2002; UNCTAD, 2011), *buyer-driven commodity chains* (Gereffi, 1994), and *manufacturers without factories* (Gereffi, 1999) to refer to such divisions of labor. Similar issues are apparent in the literature on how MNEs externalize innovation activities in GVCs (Narula, 2001; Schmitz & Strambach, 2009; Jensen & Pedersen, 2010; Narula & Martínez-Noya, 2015; Lema, Quadros & Schmitz, 2015). This extensive literature points to the increasing popularity of non-equity modes in international production (UNCTAD, 2011; Narula & Wahed, 2016), and to a middle ground between the extremes of market and hierarchy – or what Williamson (1979: 234) referred to as "intermediate forms of organization" in his discussion of relational contracting. These considerations raise two important theoretical issues.

The first issue concerns why lead firms[1] externalize selected value-adding activities. The choice between internalization and externalization for any activity involves the maximization of value, net of expected transaction and production costs. The outsourcing of selected production activities may reduce the production costs for firms relative to the costs of performing them in-house: the reasons include *inter alia* the lead firm being able to focus on its core competencies, enjoy lower fixed asset investment, achieve flexibility in response to fluctuations in demand, technology and/or general environmental uncertainty, achieve cheaper or better quality inputs and share knowledge with outside suppliers (Strange & Magnani, 2017).[2] Such lower production costs provide a compelling rationale for firms to externalize activities, but only if these are not offset by the transaction costs arising from coordination and the management of interdependence (including the risk of opportunism). This implies that firms outsource activities for which supplier relations are easy to manage and transaction costs are lower.

The second issue concerns control. It is apparent that many lead firms still wish to retain (a significant degree of) control over the activities they have externalized, and that the effective management of such activities may require a mix of hierarchical and market elements. Zenger & Hesterly (1997: 218) refer to the infusion of hierarchy into market, how "large buyers frequently prescribe particular quality programs", and how "supplemental rating programs require suppliers to use a common set of practices and procedures, provide particular forms of data, and submit to external audits." Similarly, Hennart (2010: 266) has argued persuasively that outsourcing firms may negotiate contracts that include elements of behaviour control (hierarchy) alongside use of output controls (price). Hennart points out that the coordination of

organizationally-fragmented GVCs may in principle be effected through arm's length market relations, but that behavioural rules will be more efficient under three circumstances: (i) if some of the GVC partners need to make transaction-specific investments, (ii) if the reputation of the final products depends upon difficult-to-assess qualities of intermediate products (hence free-riding is a possibility), and (iii) if the timely exchange of tacit knowledge between the GVC partners is necessary but difficult to negotiate. In such circumstances, Hennart suggests that vertical integration may be a more efficient solution, but he cites the the work of Dolan & Humphrey (2000) on horticulture as an example of, behavioural rules imposed by lead firms (the "channel leader") being common in many sectors characterised by outsourcing.

Our contention is that this theorizing of the middle ground would benefit from combining the insights provided by global value chain (GVC) theory and internalization theory. In the next section, we provide a brief description of GVC theory and contrast the main features of GVC theory and internalization theory. We then address the following questions in the subsequent sections:

1. Why do lead firms wish to maintain control over externalized GVC activities?[3]
2. How do lead firms attempt to exercise that control in the absence of ownership of the GVC activities?

A COMPARISON OF GVC THEORY AND INTERNALIZATION THEORY

The original formulation of what is now termed GVC theory was provided by Gereffi (1994, 1999). This drew on the work of Wallerstein and world systems theory (Wallerstein, 1980; Hopkins & Wallerstein, 1977), but Gereffi reframed the discussion about globalization and inter-connectedness to focus on inter-firm relationships rather than relations between centre and periphery states. Having observed the organizational fragmentation and geographical dispersion of value-chain activities for many products, Gereffi highlighted the key role of lead firms in establishing GVC membership, the location and allocation of activities within the GVC, and the distribution of the value-added generated.[4] A significant contribution was to draw attention to the role of non-manufacturing businesses (brand-name companies, retailers, etc.) in shaping the global economy alongside the large, integrated manufacturing MNEs (e.g. Renault, Philips) that are familiar to scholars of internalization theory. This led him to distinguish between producer-driven value chains led by manufacturing firms, and buyer-driven value chains in which the lead firms might be branded manufacturers with little or no in-house production (e.g. Nike, Benetton), branded merchandisers (e.g. Liz Claiborne, Marks

& Spencer), or retailers (e.g. Wal-Mart, Tesco). Gereffi (1999: 46) referred to the latter as *manufacturers without factories*, foreshadowing the later literatures on *factoryless goods producers* (Bernard & Fort, 2015) and the *global factory* (Buckley & Strange, 2015).

GVC theory emerged out of a reformulation of this approach. The work of Sturgeon (2002) on modular production networks identified instances in which suppliers provided customized products for buyers, but where codified knowledge reduced the costs of coordinating activities along the chain ("mundane transaction costs" in the terminology of Gereffi, Humphrey & Sturgeon, 2005) and the standardization of product architectures reduced the need for transaction-specific investments, thereby limiting transaction risks arising from opportunism. Meanwhile, Humphrey & Schmitz (2000, 2002) highlighted the importance of the risks to buyers posed by limited supplier competence, particularly in the context of the incorporation of new supply locations into the global economy. This focus on supplier competence and failures in supplier performance echoes the arguments of Langlois (2003: 361-62) on the motivation for vertical integration in the meatpacking industry in 19th Century America.

Building on this work, Gereffi et al. (2005) distinguished five different ways in which firms could coordinate activities within GVCs. These are compared with internalization theory categories in Table 1. The first category is the market where interactions are governed by prices. At the other end of the spectrum, there is the familiar hierarchy, in which the activities are contained within the firm and control is exercised mostly by management fiat. In the middle ground, GVC theory distinguishes between three distinct governance types: captive, relational, and modular. Relational governance involves both the exchange of tacit information and transaction-specific investments. It corresponds to alliances in internalization theory. The final two categories do not have clear internalization theory equivalents. Captive governance involves powerful buyers providing detailed specifications to their dependent suppliers. Modular governance involves codification and standardization that both facilitate information transfer and limit transaction-specific investments through the use of general-purpose machinery. Gereffi et al. (2005) provide an explanation of the determinants of the choice between these three types of GVC governance based on three transaction characteristics, viz: the capabilities of suppliers, the complexity of the information exchanged in transactions, and the codifiability of that information. These determine the power asymmetries between buyers and suppliers. As the authors regard codifiability as only applying in situations where information is complex, codifiability/complexity may be considered as a single dimension.

GVC theory thus highlights not just the possibility of various network forms of governance between market and hierarchy, but also the crucial roles played by information codifiability and by power asymmetries between the lead firms and their GVC partners. We will return to these issues below.

***** Table 1 about here *****

Both internalization theory and GVC theory are concerned with inter-firm relationships in the global economy, and both draw extensively, if not exclusively, on transaction cost economics and the resource-based view of the firm.[5] But the two theories differ in terms of their foci and the main phenomena they seek to explain. First, the two theories start from different questions. Internalization theory, as its name implies, starts from a consideration of the motives for internalizing activities, but has paid less attention to the different ways in which externalized activities can be managed. In contrast, GVC theory starts from the fact of externalization and gives most attention to the determinants of the different ways in which externalized activities can be coordinated. This produces a more fine-grained understanding of the types of knowledge flows and controls needed for different types of externalized transactions than that provided by internalization theory (Humphrey, 2014), but it also means that GVC theory has little to say about why firms might keep activities in-house and the costs of managing such activities (as has been noted by Sako & Zylberberg, 2017).

This has led to a weakness in terms of understanding vertical integration and its limitations (as has been noted by Sako & Zylberberg, 2017), but it does mean that the analysis provides a more fine-grained understanding of the types of knowledge flows and controls needed for different types of externalized transactions (Humphrey, 2014). Second, internalization theory is primarily concerned with the strategies of MNEs and the decisions they make about location and ownership, while GVC theory has tended to focus on sectoral structures and how they frame the opportunities available not just to large MNEs but also to smaller suppliers and contracting firms.[6] These differences lead to complementary perspectives, with internalization theory being stronger on firm strategy and GVC theory being stronger on industry structure. Third, internalization theory focuses mostly on MNEs and their decisions, and hence many authors view the MNEs as lead firms which orchestrate the activities within their global value chains to the benefit of all. In contrast, GVC theory considers explicitly the possibility ofasymmetric power relationships between lead firms and their partners within externalized GVCs, together with possible contestation over how and where value is created and distributed: a perspective also evident in the work of Stephen Hymer

(Hymer, 1972; Strange & Newton, 2006). Indeed it is these power asymmetries that underpin the status and identity of the lead firm. The key features of GVC theory and internalization theory are summarized in Table 2.

***** Table 2 about here *****

WHY DO LEAD FIRMS WISH TO MAINTAIN CONTROL OVER EXTERNALIZED ACTIVITIES?

Many externalized activities are managed satisfactorily by lead firms through arm's length relationships with independent suppliers, and across different literatures there is a large degree of accord on the conditions under which arm's-length market relations function well. Internalization theory (Buckley & Casson, 1976; Rugman, 1981; Hennart, 1982), knowledge-based approaches (Grant, 1996; Hoetker, 2006), GVC theory (Gereffi et al, 2005) and modularity approaches (Baldwin, 2008) all identify the sourcing of standardized products, the absence of transaction-specific investments, low communication costs and low measurement and monitoring costs as conducive to such types of exchange. Buckley (2009a: 135) asserts that "products with standard manufacturing interfaces and services with standard processes are ideal for outsourcing." From the GVC perspective, Gereffi et al. (2005) refer to standard products that are easily identified and valued and that do not require transaction-specific investments. Baldwin (2008) refers to the creation of "thin crossing points" where information flows are limited and codified, and transaction-specific investments low. These are situations where output control via the price mechanism is effective (Hennart, 1993: 2010). While problems with suppliers might arise, these are likely to be infrequent, result in limited damage, and be largely manageable through use of the price mechanism.

Interdependencies between businesses become more difficult to manage as coordination requirements increase and the consequences of performance failures become more serious. One factor driving increased coordination requirements is the sourcing of non-standard products, with the most obvious examples of such coordination occurring when MNEs procure inputs that are customized in terms of design, quality, or delivery schedules. This is the situation described in the literatures on factoryless goods producing firms, or manufacturers without factories. The buyers rely on suppliers to meet their requirements in terms of quality and delivery. A company such as Apple depends in part on having new, high-quality products available to consumers around the world in the period after a new product launch. Equally,

Foxconn must be ready to adjust to changing delivery schedules and respond rapidly to changing product designs.

Internalization theorists have recognized these interdependencies. Foxconn's increasing capabilities and its importance for Apple has been noted by Enderwick & Buckley (2018).[7] Referring to global factories more generally, Enderwick & Buckley (2018: 2) argue that they "control the entire supply chain even though they do not own the whole of it." Work on factoryless goods manufacturing refers to lead firms wishing to "maintain control of the production process" (Bayard et al, 2015: 81) and being "*heavily involved* in activities related to the production of goods" (Bernard & Fort, 2015: 518, emphasis added). Control is moreover not confined to production activities. Mudambi & Tallman (2010: 1435) point to hybrid arrangements in knowledge process outsourcing when "transactional conditions lead the firm to desire some degree of control over the transaction without formally internalising it."

Supplier performance risk does not arise solely from issues of quality and delivery. In the past few decades, broader responsibilities have been placed on businesses, to take responsibility for what happens in their value chains. Consumer and NGO pressures have also obliged businesses to take responsibility for the labour and environmental impacts of their value chains, as discussed by van Tulder, van Wijk & Kolk (2009) and many others. Campaigners for labor rights make the link between brand name companies such as Apple and the labor policies used by subcontractors, often pointing to how these conditions arise (directly or indirectly) from the way in which buyers pressure their suppliers to reduce costs and make rapid adjustments in production volumes. Therefore, the externalization of activities may leave a lead firm in the position where it does not have direct control over its suppliers' factories, but it is still held responsible to some extent for its suppliers' behaviour.

Food safety is another area where businesses have faced more onerous responsibilities for ensuring food safety and managing their value chains in ways that reduce or eliminate risks. In the UK, in particular, the imposition of strict liability on food businesses by the 1990 Food Safety Act (mitigated only through the statutory defence of due diligence) means that businesses have to manage their own operations by taking reasonable precautions (setting up control systems), and exercise due diligence to ensure that the systems operate properly. Further, the 1990 Act is viewed by many public and private bodies in the food industry as requiring retailers to take reasonable precautions and show due diligence with respect to retailer-branded products. In other words, retailers are expected to take active steps to ensure

that suppliers of these own-brand products comply with the law (Humber Authorities Food Liaison Group, n.d.).

The existence of a substantial "middle ground" lying between arm's-length market relations and vertical integration is clearly acknowledged in the international business literature. Equally, there is a recognition of the need for control over externalized activities. However, there is much less work on how this control is exercised, on the different mechanisms through which this control might be exercised in practice, and on the factors determining the choice of control strategies and how power asymmetries affect this choice. We address these issues in the next section.

HOW DO LEAD FIRMS EXERCISE CONTROL OVER EXTERNALIZED ACTIVITIES?

The previous section has established the need for (behaviour) control over some externalized activities. This can take different forms. We argue that these are determined by the extent of power asymmetry and the extent to which buyer requirements can be codified.

Rugman & D'Cruz (1997: 404-405) emphasize the "strategic asymmetry" between the lead firm (flagship firm) and others within its value chain, arguing that the flagship firm determines the strategy of the chain (network) as a whole:

> "It determines and sets limits to the product/markets in which its network partners will be allowed to operate, it chooses the courses of action they will adopt to develop competencies in these fields of endeavor and it directs their capital investment programs." (Rugman & D'Cruz, 1997:405)

Kano (2018; 700, emphasis added) takes this argument further, identifying the lead firm as "a joint value orchestrator/GVC community leader…which acts as a residual claimant of the GVC's final value proposition, and is thus interested in, and responsible for, *the efficiency and effectiveness of the entire GVC*." The lead firm uses its power to maximize the overall efficiency of the network, and this implies that the use of this power to drive down the returns to network partners would be a temporary problem that would threaten the efficiency goal, and thus be unsustainable in the long run. In other words, the lead firm's ability to direct the network is a resource that facilitates coordination.

The GVC literature also views lead firms as performing similar tasks. They shape the characteristics of chains through choices about where to produce, the inclusion and exclusion of suppliers, the distribution of tasks between firms, and the distribution of risks and rewards

along the chain (for example, Bair & Palpacuer, 2015; Dolan, Humphrey & Harris-Pascal, 1999; Ponte & Gibbon, 2005). However, the GVC approach differs from that of Rugman & D'Cruz (1997) and Kano (2018) in two ways. First, the GVC approach emphasizes the possibility that power asymmetries will be used to benefit the lead firm. On the one hand, power asymmetries provide lead firms with the capacity to exercise behaviour control. The possession of isolating mechanisms[8] gives gives the lead firm leverage over the supplier. On the other hand, lead firms may leverage their power to capture disproportionate shares of the rents generated in externalized GVCs (Reimann & Ketchen Jr, 2017). GVC analysis has paid particular attention to how slicing up the value chain can reduce barriers to entry for firms in developing countries, increasing competition and driving down returns. This perspective broadly resonates with ideas of architectural advantage (Jacobides, Knudsen & Augier, 2006) through which firms can create/maintain competitive advantage and protect the rents generated from their own proprietary resources and capabilities whilst simultaneously promoting greater competition for complementary assets that are provide by GVC partners. Further support for this perspective comes from Ketchen & Giunipero (2004: 53) who comment that the literature on supply chain management typically assumes:

> "that 'a rising tide lifts all boats' - when the chain does well, all members prosper as well. But agency theory demands attention to more sinister possibilities. Supply chain relationships make participants vulnerable to opportunism – a chain member may take advantage of its partners for its own gain."

The second distinctive feature of the GVC approach relates to the codifiability of information and the exercise of power by lead firms. Much of the GVC literature sees power in terms of a direct and dyadic (one-to-one) relationship between value chain partners. The exercise of power involves one partner shaping the options open to another, or the costs and benefits of adopting such options. Such activities may open up opportunities and increase benefits as well as circumscribe them. Dallas, Ponte & Sturgeon (2017) have pointed to the role of codified standards and industry norms as means of exercising power in a more diffuse manner. Power may originate in, and may have impacts upon, broad groups of actors (including non-business actors within the business environment, such as NGOs and governments). In other words, power can affect the formal and informal frameworks of regulations, rules and norms within which businesses operate.

The discussion of power asymmetries and codification creates the framework of control mechanisms shown in the matrix of Table 3. Starting from the assumption that lead firms have

opted to externalize selected GVC activities because the anticipated savings in production costs outweigh the additional transaction costs, our contention is that the lead firm's choice between these mechanisms is determined, first, by the extent of the power asymmetries between the lead firm and its GVC partners, and second, by the codifiability of the information involved in the externalized transactions. This leads to four different ways in which firms manage the risks associated with outsourcing. These are: contracts; direct coordination; embedded coordination through product standards; and strategic alliances.

***** Table 3 about here *****

Power may be symmetrical or asymmetrical, and it may be expressed in the context of codifiability or the lack of codifiability. In the lower two quadrants of the matrix in Table 3, we assume that the lead firm enjoys "strategic asymmetry" (Rugman & D'Cruz, 1997) over its GVC partners, and chooses to use that advantage to exercise behaviour control. The types of behaviour control exercised in this context depend upon the extent to which transactional relationships can be codified. Direct coordination (Table 3, SW quadrant) arises when the information to be exchanged between the lead firm and its GVC partner is tacit and/or highly complex (and hence less codifiable). In this type of situation, contracts will be incomplete and will not provide adequate control mechanisms. Instead the lead firm will opt for specific governance mechanisms for managing and supporting transactions. In order to achieve the required performance, MNEs externalizing manufacturing activities may work with suppliers, both to monitor behaviour and to increase capabilities. The use of direct monitoring of conditions in supplier operations as a response to the need to address new regulations and the risks of non-compliance relating to them was seen in the studies of Dolan & Humphrey (2000; 2004) of Kenyan horticulture. The immediate reaction of UK supermarkets to increased responsibilities for food safety was to increase direct monitoring of supplier performance. Similarly, following the Rana Plaza disaster in Bangladesh, there were no frameworks in place for Western businesses to intervene and manage the reputational risks arising from poor building safety, even though frameworks had been developed for labour standards. Therefore, buyers had to develop new frameworks and in some cases intervene directly to show that they were trying to manage this risk.

As codifiability increases, it is possible to use contracts and standards to specify, monitor and enforce behaviour controls (Table 3, SE quadrant). Some of these controls will focus on outputs (such as prices, quantities and delivery times), particularly if they are easily measurable. But contractual controls can be much more extensive and include controls over

supplier behaviour. The management of providers of apps for mobile phones provides an example. Apple exercises tight control over the development and sale of apps in order to ensure compatibility, functionality and security. Complementors are vetted so that only approved companies can access the platform: apps can only be marketed and sold through the App Store, and all apps have to go through the Apple Store review process (Hein, Schreieck, Wiesche & Krcmar, 2016: 6-8). These actions control the quality and functionality of apps placed on the platform.[9] It is made possible because of the power inequality between the tens or hundreds of thousands of app providers compared to the dominant position of providers of mobile phone operating systems.

Where specific behaviours have to be controlled, the use of standard schemes for through certification, monitoring and enforcement provide a mechanism for codifying control and outsourcing both precautionary systems and due diligence to third parties. This approach is widely used to ensure compliance with public regulations and social expectations in areas such as product safety, use of child labour, and environmental impact. It was noted earlier that Apple has been pressured by NGOs over labour conditions in Foxconn plants in China. In response, Apple contracted the Fair Labor Association (FLA) to inspect Foxconn plants and identify issues that violated Chinese labour law or the FLA's code of conduct (Chan et al, 2013; Locke, Rissing & Pal, 2013). In a similar vein, global garment brands are also alert to the reputational risks associated with appearing to rely on child labour or sourcing from companies with poor health and safety conditions, and addressing these issues may require regulating the behaviour of second-tier and third-tier suppliers (Azmeh & Nadvi, 2014; Turker & Altuntas, 2014).

In the case of food safety and the due diligence requirements of the 1990 Food Safety Act, discussed in the previous section, food businesses in the UK responded by developing standard schemes and third-party certification for food processing establishments and farms. Such schemes develop and implement preventive controls through risk assessment and risk management - such as the use of Hazard Analysis and Critical Control Point (HACCP) procedures in food processing. Standards may indicate very specific behaviours to be adopted by farms and food processing establishments by devising critical control points, monitoring schemes and corrective measures. Alternatively, schemes may put the onus on suppliers to identify hazards and develop adequate systems to contain them, but even in this case there may be detailed and explicit rules about how to conduct risk assessments (and which types of organizations may carry them out) and how to develop and document controls and monitoring.

Such schemes may provide proof of due diligence: the British Retail Consortium specifically markets its Global Standard as providing a "due diligence" defence for retailers' own brand products."[10]

Adopting this approach provides multiple advantages. First, such standards reduce the monitoring costs for lead firms. Second, standards developed and overseen by third parties may provide a more credible basis on which to make claims to external stakeholders about compliance along the value chain (Humphrey, 2014: 108-110; van Tulder et al., 2009). Third, to the extent that standards are adopted broadly, they reduce the need for customer-specific behaviour control mechanisms, reducing transaction-specific investment.

In the upper two quadrants of Table 3, we consider the possibility that the lead firm does not enjoy "strategic asymmetry" over its GVC partners, or that it chooses to exercise forbearance (Crook & Combs, 2007) over the use of its power. In these circumstances, there is a shift from behaviour control to coordination and joint responsibility. If the information to be exchanged between the lead firm and its GVC partner is able to be codified, then the third mechanism for managing interdependence (Table 3, NE quadrant) is the development of product standards that are associated with modular product architectures. Such product standards may be developed by individual firms, groups of firms, or specialized standards-setting bodies (David & Greenstein, 1990). Sanchez & Mahoney (1996: 64) refer to this as embedded coordination, and suggest there is a reduced need for direct coordination when standardized component interfaces (an essential feature of product architecture) are used:

> "In essence, the standardized component interfaces in a modular product architecture provide a form of embedded coordination that greatly reduces the need for overt exercise of managerial authority to achieve coordination of development processes, thereby making possible the concurrent and autonomous development of components by loosely coupled organization structures."

The way in which modular product architectures and standardization create embedded coordination is discussed at length by Sturgeon (2002). Standardization increases codifiability, reducing the need for exchange information about product specifications. Further, standardization of designs increases the number of buyers for each product variant, and even when there is some degree of customization to the specifications of particular customers, this can be achieved with general-purpose machinery that obviates the need for transaction-specific investments.

The fourth and final quadrant (Table 3, NW quadrant) relates to cases where the information to be exchanged is tacit and/or complex, and hence is not easily codifiable. Given that the internalization option has been rejected, the favoured governance arrangement is likely to be a non-equity alliance with the provider of the requisite resources and/or capabilities.[11] In such cases, the partners involved in the alliance are bound together by some combination of goal congruence, mutual self-interest, the possession of complementary resources and capabilities, and risk-sharing (Dyer & Singh, 1998; Ariño, De la Torre & Ring, 2001; Poppo & Zenger, 2002; Mudambi & Tallman, 2010; Cuevas et al., 2015). In short, there is likely to be a "strategic symmetry" between the partners, with trust between the partners providing the main organizing principle rather than any form of behavioural control by one or the other (Zaheer & Venkatraman, 1995; Das & Teng, 1998). Such alliances may be particularly important in many high-technology sectors where major product innovations are beyond the scope of individual firms, or require substantial R&D investments, and/or have long payback periods. Product innovations may require a wide range of tacit and complex capabilities whose in-house provision may be impossible or costly, and alliances may provide the only way to develop and access the necessary skills within the requisite timescale.

These issues are well illustrated by the long-standing alliance between Renault and Nissan Motor (Bartlett et al., 2008).[12] The alliance was established in 1999, largely driven by Renault's objective of gaining global stature and withstanding the competitive threat of a series of cross-border mergers in the automobile industry. The alliance realized significant complementarities between the two firms in expertise (Renault in cost control and design; Nissan in R&D, technology and quality control), geographic scope (Renault in Western Europe and South America; Nissan in Asia, North and Central America, and Africa), and product range (Renault in mid-range cars and JCVs; Nissan in 4WD vehicles and pick-ups). The alliance has not only stood the test of time, but has established further alliances in important emerging markets such as South Korea (2000), China (2002), Russia (2007) and India (2009). The alliance also made a partial acquisition of Mitsubishi Motors in 2016, and became the largest automaker (in terms of sales) in the world in the first six months of 2017. A more recent example is provided by the announcement, in January 2018, of a strategic alliance between the US omni-channel retailer, Walmart Inc, and the Japanese e-commerce firm, Rakuten Inc. The broad objective for both firms is to expand consumer reach: Walmart will become Rakuten's exclusive retail partner for e-books and audiobooks in the United States, whilst the two firms will launch a new online grocery delivery service in Japan in late 2018.

CONCLUDING REMARKS

In this research note, we have argued that greater attention needs to be devoted to the " middle ground" between market and hierarchy. We have suggested that internalization theory might be extended by bringing together complementary insights from both internalization and GVC theory. More specifically, we have argued that internalization theory can explain why lead firms might wish to externalize selected activities, but that it is largely silent on the mechanisms by which those lead firms might exercise control over the resultant externalized relationships with their GVC partners (which may be situated upstream or downstream in the GVC) – despite acknowledging that such control is often sought. Drawing on work on GVC governance, we have identified four possible mechanisms (i.e. contracts, direct coordination, embedded coordination, strategic alliances). Furthermore, we have advanced an explanation linking the choice of control mechanism to two factors: power asymmetries between the lead firms and their GVC partners, and the degree of codifiability of the information to be exchanged in the relationship.

Future work might enrich and extend this model in several ways. First, the sources of power and power asymmetries - how power is acquired, how it is maintained and how it is deployed – that underpin the “strategic asymmetry” between lead firms and their GVC partners require greater elaboration. These power asymmetries may depend upon a variety of factors, including *inter alia* the relative sizes of the lead firms and their GVC partners; the heterogeneous resources and capabilities held by current (and potential) GVC partners; the isolating mechanisms enjoyed (or not) by the lead firm and the GVC partners; and the potential switching costs for both parties. Second, what are the constraints on the exploitation of power asymmetries (Crook & Combs, 2007; Reimann & Ketchen Jr, 2017)? Such constraints may be internal (in the sense that lead firms may voluntarily opt for forbearance because they consider the costs associated with exploitation to outweigh the benefits, with GVC orchestration - as envisaged by Kano (2018) - being more advantageous) or external (formal rules and regulations imposed by governments, or other informal institutional pressures on appropriate behaviour). Third, our discussion of power asymmetries has been couched in terms of dyadic relationships between a lead firm and a GVC partner. In reality, GVCs typically involve hundreds – if not thousands – of suppliers and distributors who are, in turn, often partners to many different lead firms. It would be valuable to consider alternative manifestations of power in various configurations of upstream and downstream relationships (Huo, Flynn & Zhao, 2017).

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Table 1: A Comparison of the Governance Categories in Internalization Theory and in Global Value Chain Theory

GVC theory categories	Market	Modular	Relational	Captive	Hierarchy
Internalization theory categories	Market	Hybrid			Hierarchy

Table 2: A Comparison of Internalization Theory and Global Value Chain Theory

	Internalization Theory	Global Value Chain Theory
Intellectual heritage	Existence and scope of MNEs as cross-border governance arrangements, building on the work of Hymer (1960), Coase (1937) and Williamson (1975)	Integration of less-developed countries into the global economy, building on the work of Hopkins & Wallerstein (1977), Wallerstein (1980) and Baldwin & Clark (2000)
Main focus	Why do firms internalize GVC activities?	How are externalized GVC activities coordinated?
How is control effected?	Control through ownership: * wholly-owned subsidiaries v equity joint ventures * greenfield investments v acquisitions	Control without ownership: * Contracts * Direct coordination * Embedded coordination * Alliances
Alternative governance mechanisms	* Market * Hybrid * Hierarchy	* Markets * Modular * Relational * Captive * Hierarchy
Lead firms	Integrated MNEs	Branded manufacturers, branded marketers, retailers, manufacturers without factories
Roles/motives of lead firms	GVC orchestrator, maximising the efficiency of the entire GVC	Manage chains to deliver products meeting requirements of lead firm and consumers. Exploitation of power asymmetries to create and maintain architectural advantage
Strengths	Strategies of MNEs	Opportunities for lead firms and suppliers in GVCs, and implications for industry structure
Weaknesses	Little to say about: * Possible alternative motives of lead firms * The organization of externalized GVCs	Little to say about: * MNE ownership decisions * The internal organization of MNEs
Seminal references	Buckley & Casson (1976) Hennart (1982) Rugman (1981) McManus (1972)	Gereffi (1994; 1999) Humphrey & Schmitz (2000, 2002) Sturgeon (2002) Gereffi et al. (2005) Kaplinsky & Morris (2001)

Table 3: Alternative Governance Arrangements within Externalized Global Value Chains

		Codifiability of Information	
		low	**high**
Power asymmetries between the lead firm and its GVC partners	**low**	Strategic alliance	Embedded coordination (standards and modularization)
	high	Direct coordination	Contracts with behaviour controls

ENDNOTES

[1] We use the term *lead firm* in this paper but many synonymous terms are used in the literature, including *inter alia* focal firm (Coe, Hess, Yeung, Dicken & Henderson, 2004), flagship firm (Rugman & D'Cruz, 1997), hub firm (Jarillo, 1988), network orchestrator (Parkhe & Dhanaraj, 2003), orchestrator (Pitelis & Teece, 2010), joint value orchestrator (Kano, 2018), meta-integrator (Narula, 2014), strategic centre (Lorenzoni & Baden-Fuller, 1995), and strategic nexus (Mudambi & Venzin, 2010).

[2] Outsourcing does not necessarily entail lower production costs, and the literature also highlights several reasons why production costs might be lower when production is vertically-integrated: these include scale and scope economies, increased bargaining power vis-à-vis suppliers and buyers, improved scheduling and coordination, overcoming imperfect competition in downstream/upstream markets, enhanced protection of product quality and proprietary technology, and the avoidance of opportunistic recontracting (Strange & Magnani, 2017).

[3] This question might also be posed as why do firms choose to externalize activities over which they wish to maintain control?

[4] Gereffi's early papers continued to use the term "global commodity chain", as used by Wallerstein, even though he substantially altered the content of the concept. Subsequently, a broader group of GVC theorists adopted the term "global value chain", partly because of the association of "commodity" with bulk, standardised products, even though the chains studied by these theorists were mostly concerned with differentiated products (Gereffi, Humphrey, Kaplinsky & Sturgeon, 2001). Other similar, though not identical, terms are supply chain, demand chain, production network and filière. We use the terms value chain, and global value chain, throughout to avoid confusion.

[5] Various authors have discussed the relationships between the two theories (for example, De Marchi, Di Maria & Ponte, 2014; Humphrey, 2014; Narula & Wahed, 2016).

[6] The GVC literature is thus particularly strong on the upgrading strategies (product, process, functional and inter-chain) pursued by small firms in developing countries (Humphrey & Schmitz, 2002; De Marchi et al., 2014).

[7] The level of mutual dependence between these two companies, the power asymmetries between them and attempts by both companies to diversify to other suppliers/customers are described in Denicolai et al. (2015).

[8] Such isolating mechanisms (Rumelt, 1984; Rumelt, 1987) may involve formal property rights (patents, licenses, trademarks); firm-specific technical knowledge that is hard to copy; market-based firm-specific assets (corporate reputation, brand names, marketing capabilities, distribution networks); and/or first-mover advantages (Denicolai et al, 2015).

[9] Similar types of controls are also widely used by gaming platforms (Schilling, 2009).

[10] See https://www.brcglobalstandards.com/brand-owners.

[11] Equity joint ventures may best be seen as “joint hierarchy” (Hennart, 2010: 263) rather than as hybrids occupying the middle ground between market and hierarchy.

[12] The Renault-Nissan arrangement was not an alliance in the strictest sense, as Renault initially took a shareholding in Nissan and the two firms have subsequently taken cross-shareholdings in each other. However, the two firms have always retained their independence, and maintained that they have an alliance of equal partners.